

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of

A National Broadband Plan for Our
Future

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GN Docket No.09-51

COMMENTS OF SPACENET INC.

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Summary Comments of Spacenet Inc.

Spacenet Inc. ("Spacenet") is pleased to submit the following comments in response to the Commission's Notice of Inquiry ("NOI") concerning a national broadband plan for America. Spacenet applauds the Commission's wide-ranging NOI, which appropriately recognizes the vital role that satellite services providers like Spacenet play in making broadband services available today in the United States.

Background

Spacenet Inc. is a McLean, Virginia, based company with over 28 years of experience providing data, voice and video networks using satellite communications technologies and hybrid networks using satellite and terrestrial services. Today, Spacenet has over 100,000 locations with broadband satellite terminals installed in the U.S. and its territories, bringing broadband to consumers, small businesses, large enterprise business locations, public safety organizations and healthcare providers. In addition, Spacenet affiliates operate rural Internet access and telephony services in several countries including Columbia and Peru. Spacenet believes a combination of many different technologies is necessary to deliver broadband services

to all people of the U.S. and its territories in an optimal way. This combination will take into account the advantages of each technology and match them to the attributes of geography, demographics and desired applications. In this context, satellite communications has unique characteristics which make it the efficient choice for rural areas. While other wired and wireless technologies are most efficient in serving urban and suburban areas, satellite communications is the only technology that is ubiquitous and distance insensitive and thus highly efficient by a significant factor. The performance and cost to deliver all other wired and wireless technologies varies greatly with distance. The cost to deliver a broadband service via satellite is the same whether it is to a location next door or across the widest expanse of the U.S. and its territories. Thus, satellite technology is an ideal ingredient in the technology mix to meet the goals of the “national broadband plan” of “bringing broadband to all Americans”.

Broadband Internet Consumer Services

The consumers in the most rural areas of the United States who want a broadband Internet connection from home lack a true broadband service choice equivalent to what is available in urban areas. This is not because there is no service available. Today, satellite services companies, including Spacenet, will serve any location within the United States. Even as satellite services to rural areas are more cost efficient than terrestrial alternatives, the barriers to increased adoption by rural consumers are the upfront cost for the satellite terminal and the recurring monthly costs. The services offered today utilize Ku-band and first generation Ka-band frequency satellites in the geostationary orbit. While there is a range of speeds from which the consumer may select and, which may reach DSL speeds, these services do not currently match the cable modem level of speeds offered in urban and suburban areas at an affordable price.

The speed differential between consumer satellite-delivered broadband and cable modem broadband will change dramatically with the next generation of Ka-band frequency satellites currently under construction and expected to be in service early 2011. The cost per unit of bandwidth on this next generation satellite is expected to be ten times less than today's comparable cost. This will allow for a cable modem like experience delivered to rural areas at an affordable price.

To accelerate the adoption of broadband by consumers in rural unserved areas, the broadband stimulus grants should be used to offset consumers' upfront costs. Additionally, grants should be used to offset a portion of existing generation space segment costs as a way to increase the speeds delivered to the consumers' home now. With these grants, we can bridge to the next generation Ka satellite capacity which makes these services sustainable without further government assistance.

Broadband for Community Anchors and Public Safety

The issue of broadband delivery to rural community anchors and public safety agencies is very different from the consumer issues. The needs of this group can be met today using the existing generation of satellites. While the amount of bandwidth needed by this constituency is greater than that required by a single consumer, the bandwidth and therefore the cost can be shared amongst the community anchors and public safety needs.

Often times when a natural disaster strikes, terrestrial services are interrupted. Using satellite delivered broadband services libraries, community centers and schools can be provided with the speeds and bandwidth they require, while in an emergency this bandwidth can be redistributed "On Demand" to the public safety agencies instantaneously. Emergency responders, police and fire departments take over a portion or all of the available bandwidth.

This gives the emergency responders the ability to communicate at the local, state and federal levels as needed, while leaving enough bandwidth with the community anchors to continue at a lower speed until the emergency is over. Thus the cost of the bandwidth delivered can be spread across multiple user communities. Such shared bandwidth services can be deployed today within months to many rural communities in the United States in a cost effective manner unmatched by wireline technologies.

Satellite Technology for the National Broadband Plan

The basic issue that affects the speeds and costs to deliver satellite broadband to any user is the capital investment per increment of bandwidth required for the satellite that is in orbit with its beams covering the U.S. Today, Ku band satellites and first generation Ka band satellites exist to deliver broadband services. The capital investment per unit of bandwidth available has decreased dramatically as the shift was made to first generation Ka band from Ku band. This reduced the capital investment and therefore the cost of a unit of bandwidth by a factor of six. The technology improvement does not stop there. The second generation of Ka band satellites will be in orbit early 2011. These satellites will reduce costs by an additional factor of ten. That's a combined 60:1 reduction in the cost of satellite delivered broadband in a short number of years.

Where does this leave us today? There is a mandate through the American Recovery and Reinvestment Act to create jobs, accelerate the deployment of broadband to the rural areas and provide significant public benefit now. The national broadband plan should look to the longer term. Spacenet believes both of these sets of goals can be reached efficiently and with no waste of taxpayers' money. During the next two years, and starting immediately, we suggest that with certain stimulus grants Spacenet can provide broadband services to rural community anchors and public safety agencies, as well as consumers, at prices these rural users can afford. With the

availability of the next generation of Ka band satellite capacity these services will shift to the new, more cost effective capacity with minimum disruption. The lower cost of operation and higher bandwidths available will make these services sustainable without further government assistance.

Responses to Specific Questions

Spacenet's comments below are organized with reference to the paragraph number used in the NOI.

12. As it relates to the Commission's question, "how the commission can identify and promote the best and most efficient means of achieving this congressional mandate (the national broadband plan)"

The Commission's approach to creating the national broadband plan should include not only comment from all stakeholders but also a thorough and in depth understanding of the state of the technologies as they exist today and what is now expected in the near future. Some technologies may have stalled, some have reached a point where the concentration going forward is only on availability and others are at a significant inflection point in cost effectiveness, speed and ubiquity. The latter is the case of satellite technology.

13. As it relates to the question, "How should broadband capability be defined going forward"

Broadband capability should be defined by the needs and expectations of the user rather than by a specific minimum speed. The needs of the consumer at home who wants email and web surfing are significantly different than the needs of a rural hospital for telemedicine. The technologies utilized to deliver broadband must be sufficiently flexible to meet the needs of a wide variety of users.

As it relates to the question, “what does it mean to have access to it (broadband)”

What it means to have access, should be not only is the service available and meets the user’s needs, but has a cost that is attractive compared to the economic and social benefits it brings. A consumer may be willing to pay \$40 per month to have the benefits of the Internet while a hospital that can offer telemedicine services may find that service key to its business model and therefore be willing to pay \$200 per month. This is not a technical question; it is a value question.

16. As it relates to, “should these definitions be unified, or should they have separate meanings for different purposes”

The terms “advanced telecommunications capability,” “broadband,” and “high-speed Internet” are terms you may seek to define today but must evolve as technology evolves. These terms should have separate meanings for different applications.

17. As it relates to the questions, “whether a definition of ‘broadband’ should be tethered to a numerical definition or, instead, an ‘experiential’ metric” and “should such performance metrics apply only for the local access link, for the end-to-end path, or some other portion of the network?”

Spacenet believes broadband has to be defined differently for different users and that the definition should be inclusive of technical specifications and measures of user experience. The measure of the quality of the service delivered must include all communications facilities involved from the user’s interface, to the connection, to the Internet cloud.

19. Related to the question, “should a different set of standards be used to identify mobile broadband services”

The needs of the mobile broadband user may be different than the fixed broadband user

and not all mobile applications will be the same. The focus for attempting to define technical characteristics of broadband must be related to the needs of the application, not the specifics of the technology used.

20. As it relates to the Commission's question, "how should actual speed delivered to consumers be determined"

The speed delivered to the consumer using satellite communications is a function of the total bandwidth allocated to a group of users and how many users are in that group. The "speed" the consumer receives at any instant in time is based upon the statistical probabilities of how many simultaneous users are accessing the Internet at that instant in time. With the exception of fiber delivered directly to the home, this is true of all wired or wireless technologies. For satellite communications, the difference from other technologies is that the "speed" is not a function of geographical location like other wireless services, or the distance from a central point infrastructure for wired services.

23. Related to the question, "whether our determination of availability should take into consideration the provision of broadband at locations, such as at home, at work, in schools, in transit, in libraries..."

Spacenet believes the Commission should strive to be all inclusive in its definition of availability. It should include homes, businesses, schools, people in transit, libraries, community centers and public settings.

25. The Commission asks, "How should the national broadband plan establish priorities for unserved areas versus areas with limited competition and capability?"

The first priority should certainly be given to unserved areas. The Commission should strive to find a method to create competition where none exists. That said, the market forces must be allowed to work in a technology-neutral way.

27. As it relates to the request for comment on, “the extent to which access hinges on affordability”

Affordability is a key component of the definition of access. The Commission should strive to define access in a way which takes into account the real and perceived value that access brings to the user versus the cost.

29. As it relates to the need to measure progress through the collection of data regarding users receiving broadband.

For satellite communications services providers it is a relatively easy task to provide the Commission the location of all users, as well as provide maps of service coverages.

52. The Commission seeks comment on “how the goals of affordability and maximum utilization work together, or separately”

Spacenet believes that affordability and maximum utilization do work together, especially when making use of an existing asset such as a communications satellite. The more an asset is utilized the greater the efficiencies achieved from the operator’s perspective, thereby lowering end user pricing, which leads to greater affordability. As broadband services become more affordable the result will be greater demand.

62. The Commission seeks comment on, “how the programs in the Recovery Act should be considered as the Commission develops a national broadband plan”

Spacenet believes the national broadband plan should support the underlying intent of the BTOP program to accelerate broadband deployment in unserved and underserved areas, as well

as enhance public safety. Success of these programs should be monitored based on the increase in number of citizens with access to broadband service relative to the cost of network build out. This will not only monitor effective build out, but help insure against wasteful spending.

72. The Commission asks “should the Commission focus on broadband high-speed Internet connectivity for public safety and homeland security needs?”

Spacenet believes that public safety should be one of the key elements to any national broadband network plan. Components should include basic broadband access for public safety agencies in rural areas, wireless communications for mobile requirements, as well as back up networks to support continuity of operations in the event of catastrophic network outage. Spacenet today provides broadband access to a number of public safety agencies using our satellite services.

To truly ensure continuity of communications for public safety and homeland security, network redundancy must be provided independent of the terrestrial networks. Satellite networking is the only solution independent of most all terrestrial assets. Spacenet currently provides satellites communications services as a backup to terrestrial facilities for large police departments and first responders.

76. Relating to public safety and homeland security the Commission asks “What features are most important” and “Are there opportunities for pooling resources such as shared infrastructure?”

From our experience supporting public safety, homeland security, and health care broadband customers, Spacenet recognizes the critical importance of supporting multiple user interfaces as well as voice, video and data communications.

Additionally, Spacenet can demonstrate a number of examples where public safety agencies can “achieve economies of network resource sharing” utilizing existing satellite bandwidth. In addition to guaranteed continuity of operations, satellite network capacity can be dynamically shared across multiple users throughout a region or even the entire country for greater security and improved economics.

Conclusion

In sum, Spacenet strongly recommends that satellite, as a technology, has a critical role to play in the national broadband plan. Satellite communications has unique characteristics which make it the efficient choice for rural areas. While other wired and wireless technologies are most efficient in serving urban and suburban areas, satellite communications is the only technology that is ubiquitous and distance insensitive and thus highly efficient by a significant factor.

Respectfully submitted,

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